Knowledge, use and awareness of caffeine in elite athletes

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Introduction
Caffeine is the most widely used pharmacologically active substance in the world. As of January 2004, the World Anti-Doping Agency removed caffeine from its restricted substances list. Consequently, athletes are now able to use caffeine in conjunction with WADA sanctioned sports, without fear of doping code violations. Also of interest to athletes, a recent meta-analysis of controlled caffeine trials has confirmed its ergogenic properties particularly in endurance sport (Dougherty 2004). Surprisingly though, very little independent data exists on elite athletes knowledge, use and awareness of caffeine in sport.

Methods
A questionnaire investigating the beliefs and attitudes towards caffeine use was administered to elite athletes. Elite was defined as having competed at either junior international, open state, national or international levels or being a full time professional athlete. Questionnaires were completed by athletes from a variety of sports, including Team Strength athletes (TS) (Rugby Union and Rugby League), Individual Endurance (IE) athletes (Cyclists) and Team Skill (TSk) athletes (Basketball). Questionnaires were administered to the team athletes at group training sessions, while IE athletes were recruited from various cycling competitions across the state. Descriptive data analysis was completed.

Results
67 athletes completed the caffeine survey. This group consisted of 40 TS (23.5±3yrs; 102.6±11kg), 11 IE (26.0±6.5yrs; 65.5±8kg) and 16 TSk (24.8±4yrs; 95.6±13kg) athletes. 26(39%) of athletes reported never having used caffeine to elicit a specific performance enhancement.

13 of 65 (20%) elite athletes were unsure whether caffeine was a restricted substance for use in their sport. Of the 52 that indicated whether caffeine was either restricted or not, 16 (31%) were wrong (Caffeine remains restricted in Rugby League). Only 7 (10%) athletes were confident that they understood the dose of caffeine required to elicit performance improvements in their sport. Stated intakes ranged between 80-400 mg (0.7-5.2 mg/kg BW) of caffeine.

The majority of subjects using caffeine to enhance sports performance indicated that the severity and frequency of common side effects such as tremors, headaches, urinary loss and increased sweating were “barely noticeable” and “infrequent”.

Discussion/Conclusion
Despite recent changes to the status of caffeine as a restricted substance in competitive sport, it appears from the present data that many elite athletes remain either confused or misinformed of its legality. The plethora of caffeine-containing products available to athletes adds to the difficulty faced by individuals wishing to harness its ergogenic effects. The current data indicates a distinct lack of nutrition knowledge regarding both the recommended amounts of caffeine used to influence performance and the products which contain these quantities of caffeine.

References